

Proposed Project

Upper Little Patuxent Watershed

Project Number: BF12

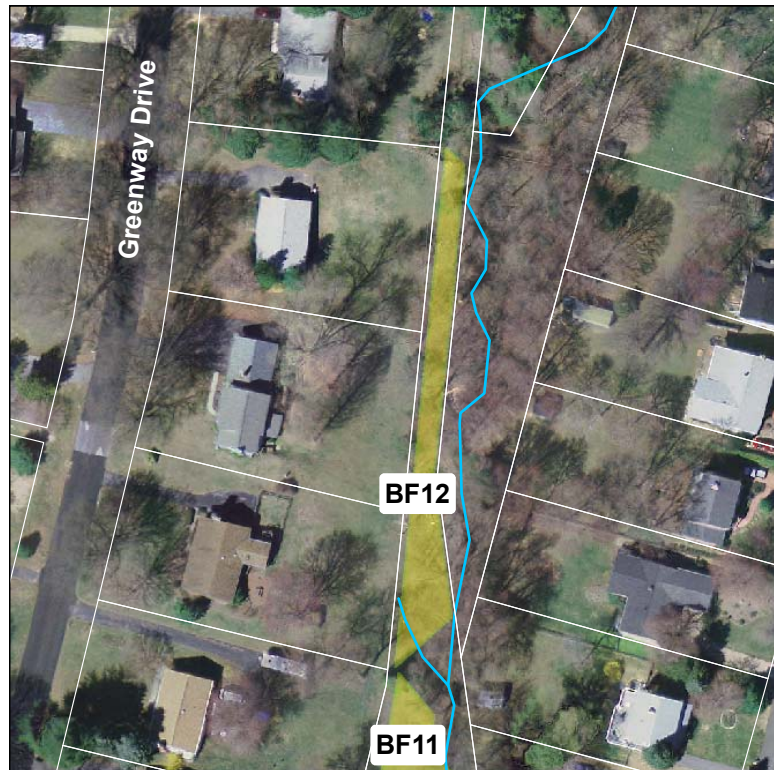
Subwatershed: Plumtree Branch 2

Project Type: Riparian Buffer Replacement

Project Size: Approx. 335 feet in length / 0.13 acres

Project Location: Behind houses between Greenway Drive and Southview Road.

Project Description: The riparian buffer along the stream behind the homes along Greenway Drive and Southview Road has been greatly reduced or is absent in many areas. This project is an extension of project BF11. The public open space available for planting along this portion of the stream is much less than shown in project BF11, but the stream would benefit from a restored buffer. Because of this reduced amount of space, the project may be nothing more than public education on the benefits of allowing natural buffers to remain intact (that is, no mowing within 50 feet of the stream wherever possible). If planting occurs, native trees and shrubs should be used to widen the existing buffer.



Use of volunteer assistance for site preparation, planting and necessary maintenance and monitoring of the site could help reduce overall project cost.

Project Benefits:

Stabilization	Additional trees and shrubs will help stabilize the stream bank.
Habitat	Additional habitat provided by this project would be limited due to the proximity of houses.
Water Quality	A more established buffer will provide shading effects to reduce water temperature and will trap runoff and pollutants such as fertilizers from the adjacent property.

Project Constraints:

Environmental	No environmental/permitting constraints are present.
Property Ownership	This property lies on County owned property (Brinkleigh natural resources open space).
Facility Access	Access to this site is obtained from either Greenway Drive or Southview Road. The best access is from a utility easement between Southview Road and the open space located just south of project BF11.
Design / Construction	No major design or construction constraints are present. The design should incorporate native vegetation and a marked no-mow zone for understory development.

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Cost Detail:

ITEM	QTY	UNITS	UNIT COST	TOTAL (Volunteer Labor)	TOTAL (Without Volunteer Labor)
Riparian Buffer Replacement					
Plant Material (trees)	0.13	AC	\$3,750.00	\$488	\$488
Plant Material (shrubs)	0.13	AC	\$2,725.00	\$354	\$354
Mulch, Tree Shelter	88	PLANTS	\$6.00	\$531	\$531
Cost to Plant	88	PLANTS	\$6.00	\$0	\$531
Site Preparation (volunteer)		AC	\$0.00	\$0	\$0
Basic Site Maintenance and Monitoring (volunteer)		AC	\$0.00	\$0	\$0
Direct Construction Subtotal				\$1,373	\$1,904
Base Construction Cost				\$1,373	\$1,904
Mobilization (10% of Directs or \$1,000)				\$0	\$0
Subtotal				\$1,373	\$1,904
Contingency (30%)				\$412	\$571
Construction Subtotal				\$1,784	\$2,475
Env't'l Studies / Permitting (5% of Construction or \$1,000)				\$0	\$0
Landscape Design and Surveys (25% of Construction or \$5,000)				\$0	\$0
Total Capital Cost				\$1,784	\$2,475
Operations and Maintenance Costs					
Annual Maintenance	5	Percent		\$69	\$95
Discount Rate	5	Percent			
Expected Life	5	Years			
Net Present Value of Annual Costs				\$297	\$412
Life Cycle Cost				\$2,100	\$2,900

Cost Notes and Assumptions:

Project costs were derived for both volunteer and paid labor. In calculating costs for volunteer labor it is assumed that local volunteer organizations could accomplish the project with County assistance and oversight. Site preparation, planting and any necessary maintenance and monitoring would be conducted by volunteers.

Planting density is planned at 1 tree or shrub planted at 8 foot intervals for a total of 681 plants per acre.

Size and species of trees and shrub plant material is based on approved Howard County Recreation and Parks information and is typically a 3-4 foot plant. Use of more mature or more immature plant material would affect the planting density and cost per plant.

Cost of plant material is based on 2009 survey of local and regional wholesale native plant nurseries. Plant material (seedlings) may also be obtained from the Maryland Department of Natural Resources, State Forest Tree Nursery at a much reduced cost or through Howard County's Stream ReLeaf program at no cost.